we sought to determine the prevalence of PIMs for older adults in Emilia-Romagna, Italy, using the updated Maio criteria. We also evaluated patient and general practitioner (GP) characteristics related to inappropriate prescribing. **METHODS:** Older adults (≥65) in 2012 were evaluated in a one-year retrospective study using administrative health care data. The 2011 Maio criteria includes 25 medications reimbursed by the Italian National Formulary, in the following categories in terms of severity: 16 medications that 'should always be avoided,' 3 that are 'rarely appropriate,' and 6 that have 'some indications although they are often misused.' To evaluate the extent of associations between patient and GP related characteristics, we used generalized estimating equations with an exchangeable covariance design to fit a robust logistic regression model. **RESULTS:** A total of 865,354 older adults were in the cohort and 28% had at least one PIM. Of the entire cohort, 8%, 10%, and 14% of individuals were prescribed at least one medication that 'should always be avoided,' 'rarely appropriate,' and has 'some indications but are often misused,' respectively. Older patients (≥75) and females were more likely to be exposed to PIMs. 2,923 GPs were identified in the region that prescribed at least one PIM, of which older (≥56) GPs, male GPs, and solo practice GPs were more likely to prescribe PIMs to their older patients. **CONCLUSIONS:** The high prevalence of PIM exposure among older adults is a substantial issue in the region. Knowing how patient and GP characteristics relate to PIMs exposure may improve the design and targeting of initiatives for improving prescribing safety in this population.

PIH88

TESTING FOR CHILDREN WITH PHARYNGITIS; IMPROVING TRENDS TOWARDS APPROPRIATE ANTIBIOTIC USE

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OBJECTIVES: Overuse of antibiotics in children is a growing concern in the US. One of the important HEDIS quality measures used to compare performance of health plans incorporates appropriate prescribing of antibiotics for children with pharyngitis. The current study examined this measure over four years to determine if physician behavior had changed over time. **METHODS:** Patients aged 2-18 diagnosed with pharyngitis (ICD-9-CM 462, 463 and 034.0) on a medical claim ('index') and dispensed an antibiotic were identified in administrative claims data from the Truven Health MarketScan® Research databases (2008-2012). From this eligible population, the proportion of patients having evidence of a streptococcus test in the seven-day period from three days prior to index through three days post-index was calculated. A higher rate represents better performance (i.e., appropriate testing). Rates were examined overall and by age group. **RESULTS:** In fiscal year (FY) 2009, 68.9% of eligible patients had evidence of a streptococcus test. Appropriate testing rates were highest for patients aged 5-7 and 8-10 (76.1% and 75.1%, respectively) and lowest for those aged 14-16 and 17-18 (62.0% and 59.9%, respectively). The rate of appropriate testing grew slightly in FY2010 to 70.2% with very similar age-group specific rates. In FY2011, the overall rate grew by nearly 6% to 74.3%. Age group trends continued, with 80.3% of patients aged 5-7 and 78.3% of patients aged 8-10 appropriately tested. In FY2012 the overall rate grew to 76.0%, with patients aged 5-7 and 8-10 continuing to have the highest rate of testing (81.1% and 80.8%, respectively) and those aged 14-16 and 17-18 the lowest rate (71.6% and 67.0%, respectively). **CONCLUSIONS:** The rate of appropriate testing for antibiotic use in children with pharyngitis increased by 10% between FY2009 and FY2012. While the trend is moving in the right direction, significant room for improvement remains.

RESPIRATORY-RELATED DISORDERS – Clinical Outcomes Studies

PRS1

THE ASSOCIATION BETWEEN TIOTROPIUM USE AND CARDIAC ARRHYTHMIA HOSPITALIZATION IN PATIENTS WITH CHRONIC OBSTRUCTIVE PULMONARY DISEASE USING A SELF-CONTROLLED CASE SERIES DESIGN

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OBJECTIVES: Tiotropium is widely used in patients with chronic obstructive pulmonary disease (COPD), and is effective in reducing the risk of COPD exacerbations. However, controversies exist around its safety, especially with regard to cardiac arrhythmia. This study aimed to evaluate the risk of tiotropium for cardiac arrhythmia hospitalization. **METHODS:** A self-controlled case series was undertaken using the IMS LifeLink Health Plan Claims Databases. COPD patients aged 45 years or older and hospitalized with cardiac arrhythmia during the observation period, from 2008 to 2011, were included. The exposure periods were defined for each patient as the dispensing periods of tiotropium plus an additional following 30 days as the wash-out period. The remaining time within the observation period in which patients were not using tiotropium were the unexposed periods. The incidence rate ratio (IRR) of cardiac arrhythmia hospitalization was calculated by comparing exposed and unexposed periods using multivariable conditional Poisson regression. **RESULTS:** A total of 86,108 COPD patients with cardiac arrhythmia hospitalizations were included. Among those, 14,398 patients (16.7%) received tiotropium. The average age of the cohort at the beginning of the observation period was 72.3 ± 12.4 years. The median follow-up time was 1,216 days (inter-quartile range; 731 – 1,461 days). The IRR of tiotropium on cardiac arrhythmia hospitalization was 1.18 [95% confidence interval (CI) 1.12 – 1.24]. The IRR was highest in the first 14 days of initiation of tiotropium [IRR 1.94; 95% CI 1.71 – 2.21] and slightly decreased over time but remained statistically significant. **CONCLUSIONS:** Tiotropium was associated with an increased risk of cardiac arrhythmia hospitalization. The risk is highest in the first 14 days of initiation of tiotropium and decreased overtime. Patients initiating tiotropium should be closely monitored for cardiac arrhythmia.

PRS2

COMPARATIVE COSTS AND EFFECTIVENESS OF ASTHMA CONTROLLER THERAPIES AFTER DISCHARGE FROM AN ASTHMA-RELATED HOSPITALIZATION

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OBJECTIVES: Patients with asthma exacerbations requiring inpatient care comprise a sub-group at high risk of adverse asthma-related outcomes. The quality of care in these individuals can thus have substantial impact on the burden of asthma. The purpose of this study was to provide a broad picture on the outcomes associated with different treatment strategies after discharge from an asthma-related admission. **METHODS:** Using administrative health data of British Columbia, Canada (1997-2012), we created a cohort of individuals discharged from an episode of asthma-related hospitalization. Exposure was assessed in the 60 days after discharge, and was categorized as no controller treatment, monotherapy with inhaled corticosteroids (ICS), or combination therapy with ICS plus long-acting beta agonists (LABA). Safety (re-admission), adherence (proportion of days covered [PDC] with controller medications, and health resource use (asthma-related costs) outcomes were ascertained in the next 365 days. Generalized propensity scores were calculated to achieve balance in the distribution of potential confounders across exposure groups. **RESULTS:** The final cohort included 1,864; 848; and 954 post-discharge periods, respectively, for no treatment, ICS-only, and ICS+LABA groups. Asthma-related admissions were significantly lower in the ICS-only groups compared with no treatment group (RR=0.69 [95%CI 0.55 - 0.87], P=0.001), but were similar between the ICS+LABA and ICS-only groups (RR=0.96 [95% CI 0.73 - 1.27], P=0.787). The PDC by a controller medication was significantly higher in the ICS group compared with no treatment (difference of 8.7% [95% CI 6.8% - 10.5%], as well as PDC by ICS+LABA compared with PDC by ICS (difference of 7.2% [95%CI 4.7% - 9.6%], P<0.001). There were no differences in costs across the three groups. **CONCLUSIONS:** Initiation of controller medications in the post-discharge period was associated with significant benefits. The higher adherence to controller medication between the ICS+LABA compared with ICS-only group can translate to better outcomes in the long term.

PRS3

WEB-BASED SURVEY ON SMOKING CESSATION BEHAVIORS OF CURRENT AND FORMER SMOKERS IN JAPAN

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OBJECTIVES: To investigate smoking cessation behaviors in Japanese current smokers (CS) and former smokers (FS). **METHODS:** An online survey of Japanese men and women ≥20 years of age who were CS or FS was conducted. CS were those who smoked any number of cigarettes at the time of the survey (24–27 June 2013); FS were those who had smoked any number of cigarettes in the past but did not consider themselves smokers at the time of the survey. Clinical and socio-demographic characteristics (age, gender, level of education, and level of nicotine dependence [Fagerström Test for Nicotine Dependence]) as well as smoking and smoking cessation history, were assessed through a web-based questionnaire. We set primary outcome measures as the number of past quit attempts and the time to relapse (duration of smoking abstinence). Secondary outcome measures included methods used to achieve smoking cessation, and reasons for wanting to quit. **RESULTS:** A total of 1261 eligible Japanese subjects were included in the survey (CS, n = 631; FS, n = 630). Mean age and gender distribution were broadly similar between the groups. Nearly half (45.6%) of CS had never attempted to quit smoking. Of those who had attempted to quit smoking, one single quit attempt was the most common for both CS and FS (19.0 vs. 39.0%). The estimated median time to relapse was 105 days (FS and CS combined). Unaided smoking cessation was the most common method both for CS and FS (78.2 vs. 63.4%). **CONCLUSIONS:** Our observations reveal the actual smoking cessation behaviors in a Japanese population, and could be combined with other data in economic evaluation models of smoking cessation interventions in Japan to identify appropriate measures to reduce the prevalence of smoking.

PRS4

PREVALENCE OF INFLAMMATION-RELATED MULTIMORBIDITY AMONG MEDICAID BENEFICIARIES WITH CHRONIC OBSTRUCTIVE PULMONARY DISEASE

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OBJECTIVES: Chronic Obstructive Pulmonary Disease (COPD) is associated with elevated levels of pulmonary and systemic inflammatory markers which may lead to high prevalence of inflammation-related conditions. This study examines the prevalence and demographic predictors of inflammation-related multimorbidity among Medicaid beneficiaries with COPD. **METHODS:** Observational retrospective cohort study using multiple years (2005-2006) of data from Medicaid Analytic eXtract (MAX) files of California (CA), Illinois (IL), New York (NY) and Texas (TX). Individuals with COPD (n = 37,151) were identified using ICD-9-CM codes for chronic bronchitis (491.xx), emphysema (492.xx), or unspecified chronic airway obstruction (496.xx). Inflammation-related multimorbidity included: cardio-vascular disease, depression, diabetes mellitus, hypertension, hyperlipidemia and musculoskeletal disorders. This variable was categorized into: (i) both physical/mental illness (IF_PHY/MI); (ii) physical illness only (IF_PHY/no MI); (iii) mental illness only (IF_no PHY/ MI); (iv) NONE. Unadjusted group differences were tested using the chi-square statistics. Multinomial logistic regression was used to analyze the association between demographic predictors and inflammation-related multimorbidity. All analyses were conducted using SAS. **RESULTS:** Overall, 78.9% of study population had an inflammation-related multimorbidity, of which 22.9% had IF_